

# HOME & GARDEN INFORMATION CENTER

## Maple

Maples (*Acer* species) are deciduous trees (sometimes shrubs) often grown for the shade they produce and their exceptional autumn color. They may be narrow and columnar, wide spreading and round-headed or low and mounded. Red maple (*Acer rubrum*), Japanese maple (*A. palmatum*), southern sugar maple (*A. barbatum*) and chalkbark maple (*A. leucoderme*) are adapted to all areas of South Carolina. Generally, sugar maple (*A. saccharum*), Amur maple (*A. ginnala*) and paperbark maple (*A. griseum*) are not suited to the Coastal Plains.



Joey Williamson, ©HGIC, Clemson Extension

Japanese maple in full fall color  
Joey Williamson, ©HGIC, Clemson Extension

### General Information on Maples

**Mature Height/Spread:** Maples vary in size from a small Japanese maple (8 feet) to a large sugar maple (100 feet).

**Growth Rate:** Growth rate is varied, depending on the species.

**Ornamental Features:** Most maples are valued for their spectacular fall leaf colors, which range from muted yellow to bright orange and red. Many are

noted for their large size and are used as shade trees, while others are valued for their delicacy and are used as accents. Some species have showy red flowers that appear in late winter before the leaves emerge in the spring. Others are characterized by interesting bark features. The fruit is a winged samara, characteristic of all maples. Commonly called a key, it consists of a pair of compressed bony nutlets joined together, each with an elongated, membranous wing. These "whirlybirds" are interesting to watch as they fall to the ground, and are attractive to wildlife.



Karen Russ, ©HGIC, Clemson Extension

Maple samaras  
Karen Russ, ©HGIC, Clemson Extension

**Landscape Use:** Maples may be used as lawn specimens, screens, patio trees, hedges, border accents and even container plants. There is such a wide variety of form and size that landscape use is dependent on the species being used.

The ideal soil for most maples is rich, porous and well-drained. Most do well in a fairly wide soil pH range, although many favor slightly acid soil. Red and silver maples thrive in fairly wet soils. Some maples tolerate moderate drought. Most thrive in

full sun or partial shade. Some should be protected from the sun to prevent leaf scorch and provided irrigation.

**Problems:** Maples may be troubled by borers, aphids, scales, leaf spots, tar spot, anthracnose, bacterial leaf scorch, canker and collar rot. Some fast-growing maples (red and silver maple) are soft-wooded ("soft maples") and prone to breakage in ice storms. Slow-growing maples have hard wood ("hard maples ") and require less maintenance. The bark is thin on most maples, and easily damaged by mechanical impact. Wounds expose the tree to greater susceptibility to disease and insects. Feeding roots on many maples are shallow, preventing good growth of turf beneath the canopy. Provide 3 to 4 inches of mulch beneath the canopy, covering any surface roots exposed. In addition to conserving soil moisture, mulch protects the trunk from mechanical damage and helps keep soil temperatures cool.

Maples "bleed," and while pruning them in spring when the sap is flowing does not harm them, the sap is messy and pruning at that time is typically avoided. Spring pruning has a greater impact on growth, as leaf area is reduced and less photosynthesis will occur during the growing season. Pruning in late summer and early fall minimizes the impact on growth, as leaves remain on the tree during the entire growing season. To reduce susceptibility to disease and insects, and ensure minimum impact on the growth of the tree, prune twigs and branches early in the growth of the tree. For more information on maple problems, refer to the fact sheet [HGIC 2005, \*Maple Diseases & Insect Pests\*](#).



Japanese maple leaves  
Chris Evans, University of Georgia, [www.ipmimages.org](http://www.ipmimages.org)

## **Japanese Maple (*Acer palmatum*)**

**Mature Height/Spread:** Some varieties of Japanese maple only grow 6 to 8 feet tall, while others may reach 40 to 50 feet in the wild. They may be broader than tall.

**Growth Rate:** The growth rate is slow (10 to 15 feet in 15 years), although it increases in size somewhat more rapidly in youth than in later years.

**Ornamental Features:** This tree is valued for many features: its interesting growth habit, fine leaf texture, and spring and fall leaf color. The growth habit varies widely depending on the cultivar. Some are low and wide-spreading, branching to the ground. Others are upright and vase-shaped. They may grow as single-stemmed small trees or multi-stemmed shrubs. The trunks are gray and muscular looking. The horizontal branching is layered, similar to flowering dogwood.

Leaf size, shape and color differ. Varieties are divided into groups based on how finely the leaves are dissected. Some varieties have red to purple-red foliage in the spring as new leaves emerge, change to green in the summer heat and turn red again in the fall. Others emerge green and remain so until fall, when they become a showy copper, orange, red or yellow.

**Landscape Use:** The Japanese maple is a very versatile plant. It can be used as a small lawn specimen, accent plant, patio tree, container plant or in a shrub border or groupings. It is also a good plant for bonsai. Plant low spreading, globose selections in areas large enough so that branches are allowed to droop to the ground. Plant taller selections that can be "limbed up" next to patios or walkways.

Ideal soil for this tree is evenly moist, slightly acidic, high in organic matter and well-drained. Plant in an area protected from high winds and late spring frosts, as leaves tend to emerge early and may be injured. Plant in dappled shade, as direct sunlight may scorch leaves in the heat of summer, especially if irrigation is not provided. Too much shade, however, may cause the tree to grow more slowly and purple leaves become more green. Provide good drainage, never allowing water to stand around the roots. During dry weather provide



irrigation, as this tree is sensitive to drought. This is especially important in the lower part of the state. Provide 3 to 4 inches of mulch beneath the canopy.

Branches droop as the tree matures. Prune lower branches of trees located near patios or walkways to allow clearance beneath the canopy. Remove small twigs to enhance the showy trunk and branch structure. Low spreading, globose selections should droop to the ground. Prune only branches or trunks rubbing against each other. Once established, keep pruning to a minimum.

**Problems:** Japanese maples may be troubled by anthracnose, powdery mildew, leaf spot, leaf scorch, root rot, aphids, scales and borers. Anthracnose causes unsightly brown lesions on leaves.

### Varieties & Cultivars:

**Non-Dissected Group:** (*Acer palmatum* var. *atropurpureum*) - The leaves of this tree are dark red-purple in spring and fall, fading to bronze-green with the heat of summer. Seedlings are variable in their leaf color. Plants placed in sun have better red color. Choose a good cultivar to obtain superior foliage color.

- 'Bloodgood' - This is a small, round-headed tree (15 to 20 feet tall). Its deep reddish purple leaves retain their color through the summer better than most. Excellent red fall color.
- 'Burgundy Lace' - The growth habit of this cultivar is more like a large shrub (10 feet tall and 12 feet wide). Branches droop to the ground. Reddish purple leaves turn purple-bronze-green in summer.

**Dissected Group:** (*Acer palmatum* var. *dissectum* *atropurpureum*) - This is a mounded, compact, low-growing shrub (8 to 10 feet) that has a twisted branching pattern. The purple-red leaves turn burnt orange in fall.

- 'Crimson Queen' - This plant (8 to 10 feet) has handsome cascading branches. Leaves in spring are bright crimson red, becoming bronze-green to red in summer. Fall color is scarlet.
- 'Waterfall' - This small plant grows 10 feet tall, 12 feet wide, and has green leaves in

spring and summer. Fall color is golden with a hint of red.

- 'Inaba Shidare' - This small tree grows 8 to 10 feet tall and has good red-purple color. It holds color well during summer.

### Related Species:

- Fullmoon Maple (*Acer japonicum*) — This maple grows 20 to 30 feet tall with similar or wider spread. The leaves are striking, wider and larger than those of Japanese maple. Like Japanese maples, it is known for spectacular fall color. The most common cultivar is 'Aconitifolium', with more deeply lobed leaves than the species.



Fullmoon maple fall color.

Joey Williamson, ©HGIC, Clemson Extension

### Red Maple (*A. rubrum*)

**Mature Height/Spread:** Red maple grows 40 to 60 feet tall, 25 to 35 feet wide. They occasionally grow 100 to 120 feet in the wild.

**Growth Rate:** This tree grows at a medium to fast rate (10 to 12 feet in five to seven years). It has a moderate life span in urban areas; it is longer-lived in wet areas.

**Ornamental Features:** The most outstanding feature of the red maple is its red, orange or yellow fall color lasting several weeks. One tree may have a combination of these colors. Trees vary in color and intensity, however, and some selections may only have a disappointing greenish-yellow fall leaf color. Seedling trees do not always have brilliant color; cultivars are more consistently colored. Leaf color of red maple changes earlier than most.



Red maple leaf with fall color  
Joseph O'Brien, USDA Forest Service, [www.ipmimages.org](http://www.ipmimages.org)

The common name of the tree does not come from the leaf color, but from the flowers and fruit. In late winter/early spring (January-March) before leaves emerge, dense clusters of showy red flowers appear on twigs and branches. These flowers produce red to brownish fruit (samara.). The fruit are attractive to wildlife and cause no significant litter after they fall.

**Landscape Use:** The red maple is a valuable shade tree. It is an excellent specimen for lawn or street. Roots can raise sidewalks, but are not so aggressive to prevent use as street trees. Irrigation is necessary for street plantings, however, if not placed in wet soils.

As feeding roots are close to the surface, red maple should be placed where turf is not desired beneath the canopy. Turf in this area would struggle to survive, and could not be mowed without possible damage to roots protruding from the soil.

Ideal soil for red maple is moist, slightly acidic and fertile. Nutrient deficiency may occur in alkaline soils (above 7.0 pH). It grows best in wet areas but tolerates occasional moderate drought. Although naturally suited to partial shade, they also thrive in full sun. Fertilize established plants in spring.

Branches droop as the tree matures. Prune at the earliest age possible to create clearance beneath the canopy. Prune to a single trunk. Prune branches growing at sharp, upright angles to the trunk, keeping branches growing at right angles to the trunk.

**Problems:** Flathead borers attack young stressed red maples. Leafhoppers and twig borers cause problems on leaves and twigs. Bacterial leaf scorch can cause damage to leaves.

Designated a "soft maple," wood is somewhat brittle, and branches are rather weak and subject to storm damage. Bark is thin and easily damaged by mechanical impact. Surface roots protruding from the soil are damaged by lawnmowers. Most red maples are not resistant to decay and begin to decline when damaged. Roots occasionally girdle (circle the trunk or root ball). Cut any circling roots, especially if located at the top of the root ball or close to the trunk.

### Cultivars:

- 'Columnare' - This is a handsome narrow columnar pyramidal form. It has excellent orange to deep red fall color.
- 'October Glory' - This is a good oval rounded form that grows 40 to 50 feet tall. Fall color is brilliant orange to red. Leaves may turn later than other maples and could be impaired by an early freeze.
- 'Autumn Flame' - This is one of the best cultivars. It has a pyramidal to rounded outline, and grows 45 to 50 feet tall. Fall color is an excellent orange to red. Leaves turn earlier than 'October Glory.'

### Related Species:

- Silver Maple (*Acer saccharinum*) - This is the fastest growing of all American maple species (10 to 12 feet in four to five years). It grows 50 to 70 feet tall, 35 to 50 feet wide. It tolerates a wide variety of soils but prefers moist soils in deep woods and along stream banks. This tree has a very vigorous root system and will buckle sidewalks and clog drain tiles. Due to its rapid growth, the wood is weak and prone to storm damage. It is susceptible to many diseases and insect pests, particularly the wooly alder aphid.

In spite of these problems, silver maple is a very popular tree and planted often, mainly because of its rapid growth and ease of culture. The bright green leaves are silvery underneath, and especially attractive when fluttering in the wind. The fall leaf color is greenish-yellow.

Freeman Maple (*Acer x freemanii*) 'Autumn Blaze' - This is a hybrid cross of red maple and silver maple. It has excellent orange-red fall color that persists later than many others, and is extremely fast-growing.

### **Sugar Maple (*A. saccharum*)**

**Mature Height/Spread:** Sugar maple is a large tree that grows 50 to 80 feet tall, 35 to 50 feet wide. In open areas it is dense, upright oval to rounded. In dense shade it grows tall and slender.

**Growth Rate:** It is a slow grower (1 foot per year), growing slightly faster when young. It is long-lived.

**Ornamental Features:** The most notable feature of this tree is the spectacular display of its leaves in the fall. The colors range from yellow to orange and red. The attractive pale yellow flowers appear before leaves emerge in the spring. The winged fruit mature in the fall, providing food for birds and squirrels.

**Landscape Use:** Sugar maple is an excellent shade and lawn tree. The dense canopy creates heavy shade, preventing turf from growing under the canopy unless lower limbs are removed. It does not thrive in crowded or polluted areas.

Ideal soil for sugar maple is fertile, moist, slightly acidic and well-drained. It thrives in both sun and shade. It is somewhat tolerant of drought in open areas where roots are allowed to expand; less so in restricted areas, where leaf scorch may be a problem.

**Problems:** Roots of sugar maples are often shallow. These roots and shade cast by the dense canopy prevent grass from growing beneath the tree.

Excessive drought can cause leaf scorch and can affect the overall vigor of the tree, making it susceptible to insect and disease problems. Irrigation should be provided during long, dry periods.

Branches droop slightly as the tree matures, and may require pruning for clearance beneath the canopy. Branches are attached at a strong angle and are not as susceptible to damage as red or silver maple.

### **Cultivars:**

- 'Green Mountain' - This is a vigorous, fast-growing tree with yellow-orange-red fall color.
- 'Legacy' - This tree appears to be more drought-tolerant than others. Fall color is red or orange-yellow, and it retains its leaves during winter.

### **Related Species:**

- Southern Sugar (or Florida) Maple (*A. barbatum*) - This tree may be used as a substitute for the sugar maple in the south. Although it can grow to 80 feet, it typically grows 20 to 25 feet. Fall color is yellow, orange and red. It is adapted to the entire state.



Southern Sugar Maple  
David J. Moorhead, University of Georgia,  
[www.ipmimages.org](http://www.ipmimages.org)

- Chalkbark Maple (*A. leucoderme*) - This is another southern variation of sugar maple. It is similar to Florida maple. Fall color varies from yellow-orange to deep red. This species tolerates dry soils. It is adapted to all of South Carolina.

### **Trident Maple (*A. buergeranum*)**

This is a handsome lawn, patio or street tree with a pleasing form and small size. It makes a good bonsai specimen. It tends to grow with multiple trunks and low branching, but can be trained to a single trunk and pruned to make it branch higher. The bark becomes an attractive orange-brown with age. Fall color is yellow, orange or red.





Amur maple leaves  
Paul Wray, Iowa State University, [www.ipmimages.org](http://www.ipmimages.org)

### **Amur Maple (*A. ginnala*)**

This is an excellent low-growing tree for patios and small yards. It grows 15 to 20 feet tall with an even greater spread. It is valued most for its brilliant red foliage in the fall and fruit that has either pink or red wings. It is more drought-tolerant than most maples, especially if located in the shade. Although it is adapted to all of South Carolina except along the southern coast, it prefers cooler climates.

### **Paperbark Maple (*A. griseum*)**

This excellent small tree has handsome bronze, papery bark that begins peeling at a young age. Slow growing, it will grow about 20 to 30 feet tall and 15 to 25 feet wide. Although it is adaptable to all of South Carolina except along the southern coast, it prefers cooler climates. It does not tolerate drought or environmental stresses.



Paperbark maple  
Karen Russ, ©HGIC, Clemson Extension

**Note:** Chemical control of diseases and insects on large trees is usually not feasible since adequate coverage of the foliage with a pesticide cannot be achieved.

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